

Notice of Allowability

Application No.

10/713,529

Examiner

Rodney G. McDonald

Applicant(s)

GOROKHOVSKY, VLADIMIR I.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed 1-29-07.
2. ☒ The allowed claim(s) is/are 22,24,26-31 and 51-71.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/826,940.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 3-13-07.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


RODNEY G. McDONALD
PRIMARY EXAMINER

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Jean Kyle on March 13, 2007.

The application has been amended as follows:

In the section labeled "Cross-Reference to Related Applications" on page 1 please insert the phrase "now U.S. Pat. 6,663,755" after "2001".

Claim 24, add a "." at the end of the claim.

Claim 26, line 1, delete the word "impulse".

The following is an examiner's statement of reasons for allowance:

Claims 22, 24, 26 are allowable over the prior art of record because the prior art of record does not teach the isolating coils being surrounding by an anode.

Claims 27-31 are being allowable over the prior art of record because the prior art of record does not teach a plurality of substantially opposed cathode chambers each supporting a cathodic arc source and being disposed along an elongated plasma duct in communication with the cathode chambers, at least one anode associated with each cathodic arc source, a plurality of magnetic isolating coils each disposed transversely relative to the plasma duct between cathode chamber pairs, and a coating chamber in communication with an end of the plasma duct, the method comprising selectively

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activating the isolating coils to confine the plasma within a cell formed between isolating coils for a selected interval.

Claim 51 is allowable over the prior art of record because the prior art of record does not teach where at least one of the auxiliary anodes is disposed tangentially to the magnetic force lines generated by the deflecting magnetic coil.

Claim 52 is allowable over the prior art of record because the prior art of record does not teach at least one of the auxiliary anodes disposed transversely to the magnetic force lines generated by the deflecting magnetic coil.

Claims 53-56 is allowable over the prior art of record because the prior art of record does not teach at least one plasma source comprising a cathode contained within a cathode chamber, at least one proximal anode associated with the cathode for generating an arc discharge, a plasma duct in communication with the cathode chamber and with a coating chamber containing a substrate holder for mounting substrates to be coated, the substrate holder being positioned off of an optical axis of the cathode and at least one auxiliary anode disposed downstream of the plasma source for generating an auxiliary arc discharge, wherein the auxiliary anode is disposed within the coating chamber adjacent to the substrate holder opposite the plasma duct and at least one magnetron arc source is disposed within the coating chamber.

Claims 57-63 are allowable over the prior art of record because the prior art of record does not teach the claimed subject matter including a deflecting system for directing a flow of plasma to the coating chamber, wherein the deflecting system can be deactivated while the first arc source is activated so that plasma from the first cathode

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does not flow into the coating chamber but electrons emitted from the first cathode flow into the coating chamber.

Claims 64-66 are allowable over the prior art of record because the prior art of record does not teach the claimed subject matter including selectively deactivating a deflecting system that directs plasma from the first cathode into the coating chamber so that substantially only electrons emitted from the first cathode flow into the coating chamber.

Claims 67-71 are indicated as being allowable over the prior art of record because the prior art of record does not teach the claimed subject matter including a pair of cathode chambers, a main plasma duct in communication with a coating chamber containing a substrate holder for mounting substrates to be coated, the main plasma duct containing at least one main deflecting electrode, a filtered plasma duct in communication with each cathode chamber and in communication with the main plasma duct, the main plasma duct being positioned off of an optical axis of each cathode chamber and each filtered plasma duct being positioned off of an optical axis of the coating chamber, the filtered plasma ducts each containing at least one second deflecting electrode electrically insulated from the filtered plasma duct and disposed adjacent to one or more walls of the filtered plasma duct that are not occupied by the cathode, and at least one deflecting conductor disposed adjacent to each plasma source and filtered plasma duct, wherein plasma generated by each plasma source is deflected by each filtered deflecting electrode through each filtered plasma duct and

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then deflected by the main deflecting electrode through the main plasma duct to the coating chamber.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney G. McDonald whose telephone number is 571-272-1340. The examiner can normally be reached on M- Th with Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Rodney G. McDonald
Primary Examiner
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RM
March 6, 2007